

## PATENT ABSTRACTS OF JAPAN

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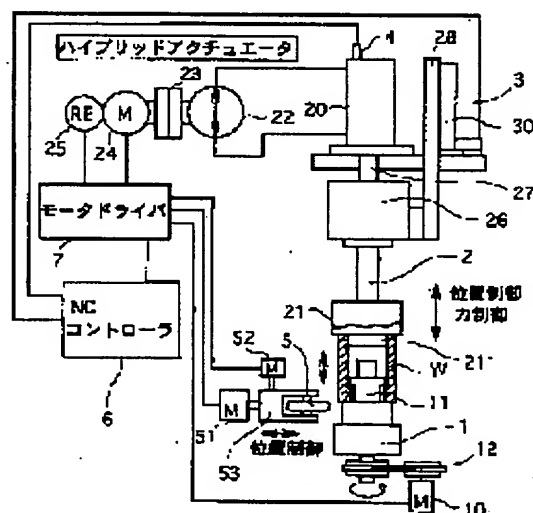
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## (54) METHOD FOR FORMING PIPE-SHAPED STEPPED PART AND APPARATUS THEREFOR

## (57)Abstract:

PROBLEM TO BE SOLVED: To reduce a cost by eliminating the need for the change of arrangement by reducing the number of working processes and shortening working hours.

SOLUTION: A principal shaft 1, to which a lower die 11 inserted in a pipe-shaped material W is fixed, clamps one end of the pipe-shaped material W. A clamping shaft 2 clamps the other end of the pipe-shaped material W. A position sensor 3 detects the position of the clamping shaft 2. A pressure sensor 4 detects the pressure of a clamping hydraulic cylinder 20. A rotatable roller tool 5 presses the material against the lower die 11 and moves in the axial direction while pressing it against the periphery of the pipe-shaped material W which rotates corresponding to the rotation of the principal shaft 1, thereby performing working. A controller 6 is provided for outputting a control signal for positional control and force control of the clamping shaft 2 according to the working position of the material W on the basis of both the position of the clamping shaft 2 and the pressure of the clamping hydraulic cylinder 20.



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